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PATENT SPECIFICATION

363,990



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Complete Accepted : Dec. 15, 1931.

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MAT

PROVISIONAL SPECIFICATION.

Improved Means for Supporting and Focussing Lamp Bulbs
particularly in Vehicle Head-lamps.

I, WILLIAM LEGGATT, of 240, Edgware Road, London, W. 2, a British subject, do hereby declare the nature of this invention to be as follows:—

5 This invention relates to improved means for supporting and focussing lamp bulbs particularly in vehicle head-lamps and has for its object to provide means whereby the lamp bulb may be rigidly 10 and positively secured in any desired and definite position and which permits a very delicate and fine adjustment of the lamp.

The invention consists in means whereby 15 a lamp bulb may be supported in position and adjusted axially and in a true straight line without any rotary or other movement of the bulb taking place.

The invention also consists in means of 20 the above kind wherein the lamp bulb is adapted to be secured in a member which is adapted for sliding movement relative to another and fixed member, means being provided whereby such movement is constrained to take place axially or in a true 25 straight line, any rotary or other movement of the lamp bulb being prevented.

The invention also consists in means of 30 the above kind wherein axial adjustment of the lamp bulb is effected by the operation of a screw or the like which is anchored or otherwise associated with a fixed member.

The invention also consists in means of 35 the above kind wherein the movable bulb carrying member is guided in its axial or straight line motion by the engagement of a pin, projection or the like in a suitably formed slot.

The invention also consists in other 40 details and arrangements hereinafter described or indicated.

In carrying the invention into effect in one convenient manner as applied by way of example to a vehicle head-lamp my 45 improved means for supporting and focussing the lamp bulb comprises a fixed socket member which is secured to some suitable part of the lamp casing and a movable socket member which is adapted 50 to receive and support the lamp bulb in position, as by a bayonet slot connection, and is adapted for axial or straight line motion relative to the fixed member.

[Price 1/-]

According to one specific form the movable socket member has a sliding fit with 55 in the fixed socket member and the latter is provided with one or more longitudinal slots which serve to receive one or more correspondingly located pins, projections or the like on the movable socket member, the arrangement being such that the movable socket member is guided in its movements and motion thereof is constrained to take place in a true straight line.

The movable socket member is provided 65 with an insulated bush carrying the contact members for the lamp bulb and preferably also the contact leads for the lamp. In one convenient example motion of this socket member is effected by the operation 70 of a screw arranged within and adapted to traverse the insulated bush, said screw being anchored to or otherwise associated with a fixed member. The improved means thus provided for 75 supporting and focussing the lamp bulb within the lamp casing has particular utility in connection with lamps hitherto proposed and designed to prevent dazzle and which depend upon 80 the filament of the lamp being situated in a certain position to obtain the non-dazzling properties.

Thus, for example, in the case of a lamp comprising two semi-paraboloidal reflecting surfaces having a common axis on 85 which the focal points lie and situated above or below the axis of the lamp casing and wherein the filament of the lamp bulb is placed above the common axis of the bi-focal reflector in order to eliminate dazzle my improved holder and focussing means would be arranged so that the filament lies in the desired position and it would be positively maintained in 90 such position, any movement of the filament due to movement of the lamp bulb by the operation of the adjusting mechanism taking place in the same plane in 95 which it is desired the filament should be maintained, such motion of the filament as is effected merely sufficing to obtain an accurate focussing of the lamp.

The invention also has particular utility 100 in connection with my own improved non-dazzle head lamp which is similar to that

described in the preceding paragraph but is distinguished therefrom by reason of the fact that I employ a transversely arranged filament placed slightly above or below the common axis of the reflecting surface. It will be readily appreciated that by using my improved lamp bulb support and focussing means in such a form of lamp absolute rigidity of the lamp bulb is secured such that the transverse filament is positively maintained in its correct position even when focussing.

The improved bulb support and focusing means may be employed in association with a suitable frame adapted to be connected to the lamp casing, the fixed socket being connected with said frame and arranged so that when the frame is in position the said socket is in a position where it will receive and support the lamp bulb such that the filament is situated in the correct position relative to the reflecting surface or surfaces.

A suitable frame consists of a ring member adapted to be connected to the front of the lamp casing and having a plurality of ribs or arms, preferably three in number, associated therewith, said ribs being radially disposed and connected at their inner ends to an inner ring or sleeve which forms the fixed socket for receiving the movable socket which receives the lamp bulb.

When applying such a frame to my improved form of vehicle head-lamp above referred to I arrange so that the centre of the fixed sleeve lies slightly above or below the common axis of the two semi-paraboloidal reflecting surfaces so that when the lamp bulb is in position the transverse

filament will be situated in the desired position slightly above or below such common axis.

In such an arrangement the lamp bulb is adapted to be supported in position with the bulb pointing towards the reflecting surface and I may employ a plate fixed to the frame, as to the vertical arm or rib, in the case where the arms or ribs are arranged in V form, such plate serving as the abutment for the screw employed for effecting the focussing of the lamp bulb, the screw being recessed, for example, so as to accommodate the fixed plate therein, and the head of the screw disposed on the outside of the plate so that it is readily accessible for purposes of adjustment or focussing.

In a preferred arrangement such plate is formed as a segment of a circle and is arranged with its plane side situated in the same plane as the transverse filament while the contact leads for the lamp bulb are also preferably arranged in this plane, parallel with the plane side of said plate and also with transverse filament.

It is to be understood that the invention is not limited to the above details or to application to any particular form of head-lamp since it is capable of being variously modified and applied in any case where it is desired to secure positive supporting of a lamp bulb and a delicate and fine adjustment for focussing purposes without varying in any way a predetermined and selected positioning of the lamp filament.

Dated this 15th day of September, 1930.
MARKS & CLERK.

COMPLETE SPECIFICATION.

Improved Means for Supporting and Focussing Lamp Bulbs particularly in Vehicle Head-lamps.

I, WILLIAM LEGGATT, of 240, Edgware Road, London, W. 2, a British subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to means for supporting and focussing the lamp bulbs of vehicle head-lamps and particularly to such supporting means in which the lamp bulb is supported from the front of the lamp and means are provided for moving the lamp bulb or a holder adapted to carry the lamp bulb relatively to fixed supporting means and along the axis of the lamp.

It has previously been proposed to provide apparatus of the above kind wherein a screw, threaded into the fixed lamp bulb supporting means, is provided with a head or flange adapted to engage a slot in a movable lamp bulb holder so that by rotation of the said screw axial motion may be imparted to the lamp bulb holder and bulb.

It has also been proposed in vehicle head lamps of the kind in which the lamp bulb is supported at the back of the lamp by means which permit of axial adjusting movement of the lamp bulb, to provide means for preventing rotation of the lamp bulb, such means comprising a pin and slot connection between a holder for the

said lamp bulb and a socket or the like in which the holder is adapted to move.

The object of the present invention is to provide improvements in apparatus of the 5 above kind and the invention consists in apparatus of the above kind wherein the lamp bulb holder is provided with one or more pins which are adapted to engage in slots formed in a socket carried by the 10 said fixed supporting means whereby rotary movement of the said holder may be prevented during axial movement thereof.

The invention also comprises apparatus 15 according to the preceding paragraphs wherein axial adjustment of the lamp bulb is effected by the operation of a screw, threaded in the lamp holder and formed with a groove in which a plate or the like 20 secured to the said fixed supporting means is arranged to engage.

In the accompanying drawings:—

Figure 1 is a front elevation of one convenient form of head-lamp embodying the 25 invention;

Figure 2 is a front elevation of Figure 1;

Figure 3 is a sectional plan of Figures 1 and 2, and

30 Figure 4 is an elevation, partly in section, of one convenient form of the invention.

In carrying the invention into effect in one convenient manner as applied by way 35 of example to a vehicle head-lamp my improved means for supporting and focussing the lamp bulb comprises a fixed socket member *a* which is carried upon a device, to be hereinafter described, for 40 supporting the lamp bulb from the front of the lamp casing and a movable socket member *b* which is adapted to receive and support the lamp bulb *c* in position, as by a bayonet slot connection, and is adapted 45 for axial or straight line motion relative to the fixed member.

According to one specific form the movable socket member *b* has a sliding fit within the fixed socket member *a* and the latter is provided with one or more longitudinal slots *d* which serve to receive one or more correspondingly located pins, projections or the like *e* on the movable socket member, the arrangement being 55 such that the movable socket member is guided in its movements and motion thereof is constrained to take place in a true straight line.

The movable socket member is provided 60 with an insulated bush *f* carrying the contact members for the lamp bulb and preferably also the contact leads for the lamp.

In one convenient example motion of the 65 socket member *b* is effected by the operation of a screw *g* arranged within and

adapted to traverse the insulated bush, said screw being anchored to or otherwise associated with a fixed member. The improved means thus provided for supporting and focussing the lamp bulb with 70 in the lamp casing has particular utility in connection with lamps hitherto proposed and designed to prevent dazzle and which depend upon the filament of the lamp being situated in a certain position to obtain the non-dazzling properties.

Thus, for example, in the case of a lamp comprising two semi-paraboloidal reflecting surfaces *h*, *i* having a common axis on which the focal points lie and situated above or below the axis of the lamp casing and wherein the filament of the lamp bulb is placed above or below the common axis of the bi-focal reflector in order to eliminate dazzle my improved holder and focussing means would be arranged so that the filament lies in the desired position and it would be positively maintained in such position, any movement of the filament due to movement of the lamp bulb by the operation of the adjusting mechanism taking place in the same plane in which it is desired the filament should be maintained, such motion of the filament as is effected merely sufficing to obtain an accurate focussing of the lamp.

The invention also has particular utility in connection with my own improved non-dazzle head-lamp as covered by British Patent Specification No. 342,652 and wherein I employ a transversely arranged filament placed slightly below the common axis of the reflecting surface. It will be readily appreciated that by using my 100 improved lamp bulb support and focusing means in such a form of lamp absolute rigidity of the lamp bulb is secured such that the transverse filament is positively maintained in its correct position 105 even when focussing.

Referring to the device for supporting the lamp bulb from the front of the lamp and which carries the focussing means same is similar to that described in my co-pending Patent Application No. 27,556 of 1930 and comprises a ring member *j* adapted to be connected to the front of the lamp casing and having a plurality of ribs or arms *k*, preferably three in number, associated therewith, said ribs being radially disposed and connected at their inner ends to an inner ring or sleeve which forms the fixed socket for receiving the movable socket which receives the lamp bulb.

The said supporting device for the lamp is wholly enclosed within the lamp casing by the lamp glass *n* and is formed independent of the latter.

When applying such a frame to my 125

improved form of vehicle head-lamp above referred to I arrange so that the centre of the fixed sleeve lies slightly above or below the common axis of the two semi-paraboloidal reflecting surfaces so that when the lamp bulb is in position the transverse filament will be situated in the desired position slightly above or below such common axis.

10 In such an arrangement the lamp bulb is adapted to be supported in position with the bulb pointing towards the reflecting surface and I may employ a plate fixed to the frame, as to the vertical arm or rib, in the case where the arms or ribs are arranged in V form, such plate serving as the abutment for the screw employed for effecting the focussing of the lamp bulb, the screw being recessed, for example, so as to accommodate the fixed plate therein, and the head of the screw disposed on the outside of the plate so that it is readily accessible for purposes of adjustment or focussing.

15 25 In a preferred arrangement such plate is formed as a segment l and is arranged with its plane side situated in the same plane as the transverse filament while the contact leads m for the lamp bulb are also preferably arranged in this plane, parallel with the plane side of said plate and also with the transverse filament, the fixed socket a being provided with slots o for the passage of said contact leads m which latter are carried upon the movable member b.

20 30 35 Having now particularly described and

ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. Apparatus of the kind referred to wherein the lamp bulb holder is provided with one or more pins which are adapted to engage in slots formed in a socket carried by the said fixed supporting means whereby rotary movement of the said holder may be prevented during axial movement thereof.

2. Apparatus according to Claim 1 wherein axial adjustment of the lamp bulb is effected by the operation of a screw threaded in the lamp holder and formed with a slot in which a plate or the like secured to the said fixed supporting means is arranged to engage.

3. Apparatus according to Claim 1 wherein said socket is formed with slots for the passage of the lamp contact leads which are carried by the movable member.

4. Apparatus according to any of the preceding claims wherein the support for the lamp is wholly enclosed within the lamp casing by the lamp glass and is formed independent of the latter.

5. Means for supporting and focussing lamp bulbs particularly in vehicle head-lamps substantially as described herein and as illustrated by the accompanying drawings.

Dated this 28th day of January, 1931.

MARKS & CLERK.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1932.

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1.

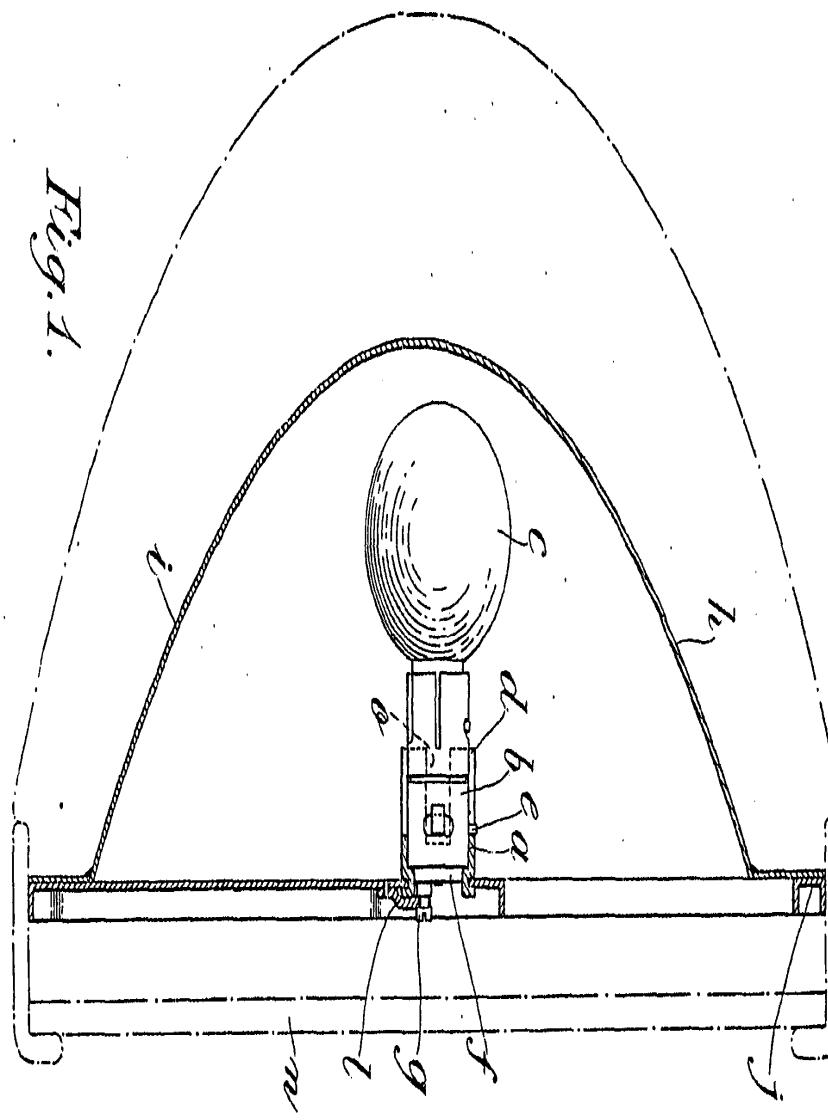


Fig. 3.

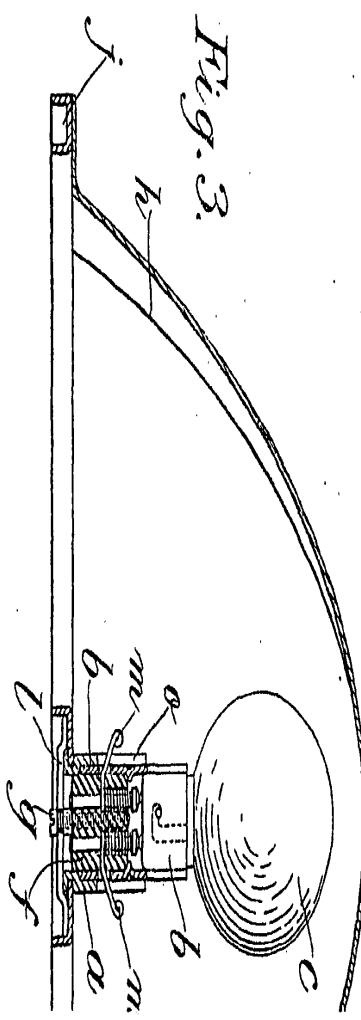


Fig. 2.

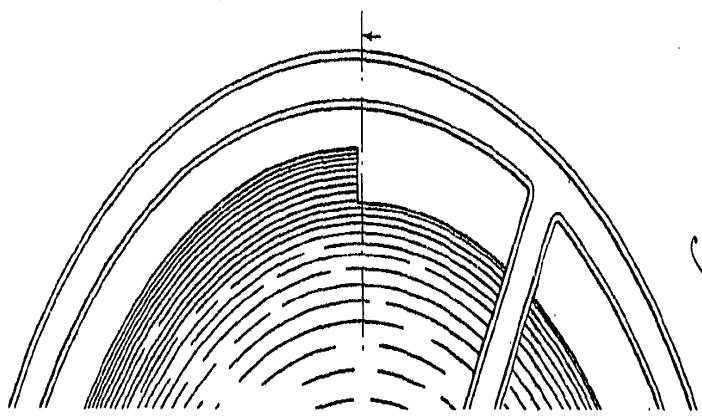


Fig. 2.

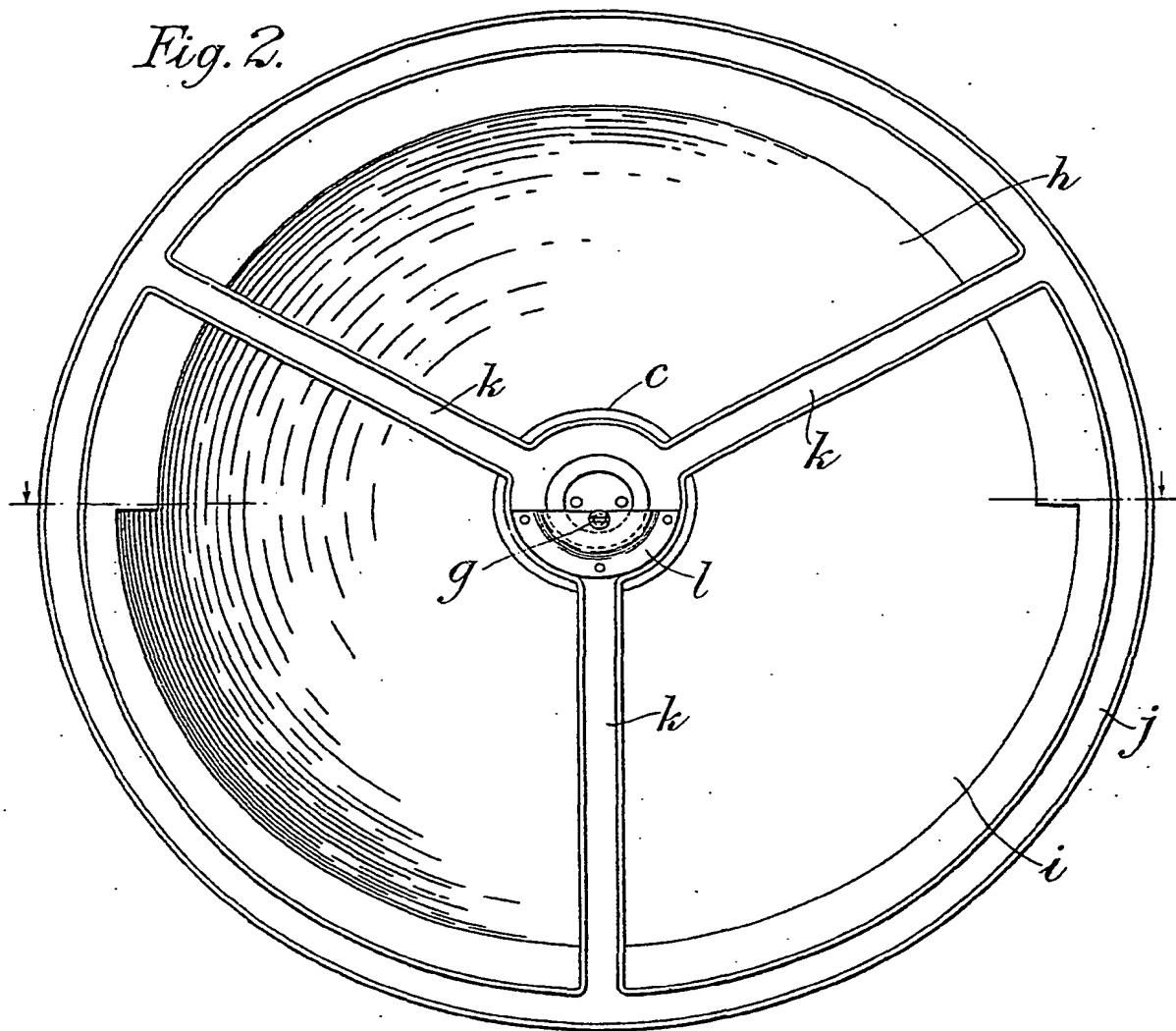
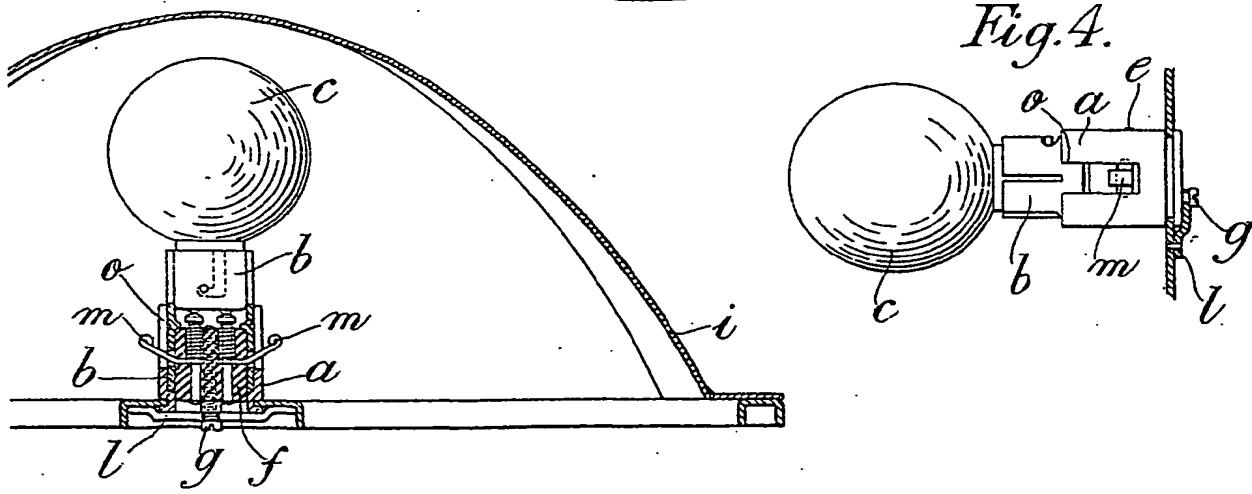


Fig. 4.



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363,990 COMPLETE SPECIFICATION

1 SHEET

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